

Fukuyama's argument is the more arresting because the evidence on which it mostly relies is contemporary history, as recorded by the newspapers we read. But especially for that reason, it is curiously incomplete. This theory of history, for example, relies for generalizations about human behaviour on the observations of people like Hegel and Nietzsche rather than on Freud or, for that matter, B. F. Skinner. More seriously, the general conclusion that the problems that lie ahead consist largely of finding interesting occupations for endless replicas of the last man begs several teasing questions, from global warming and the consequences of rapid population growth to the difficulty of reconciling Muslim states to the notion that liberal democracy is indeed the end of history. The trouble is that all these problems are, in their different ways, potential threats to liberal democracy. It is a pity that Fukuyama has ducked them. □

Mystifying manifestos

The two major British political parties seem to have turned their backs on basic research.

ALTHOUGH nobody quite knows why political parties publish political manifestos, election-struck Britain has been showered with them in the past few days. The most striking is that published as a newspaper advertisement (at an estimated cost of £200,000) which includes simulations of formulae that might well have been taken from a textbook of elementary quantum mechanics. That party consists of people persuaded that transcendental meditation solves personal problems and may thus solve the world's; it is not expected to do well in the general election now fixed for 9 April.

The three serious parties, the government (Conservative) party, the chief opposition (Labour) party and the Liberal Democratic party, on the other hand, have put out glossy brochures stuffed with promises of what they would do if elected to form a government. To tell from these documents, British science will do no better in the future than in the past, whichever party is elected.

The Conservative and Labour manifestos do not mention research as an objective in itself. Literally, in neither does research rate a mention. Only the Liberal Democrats refer to research as such, but then only cursorily, by comparing the proportion of Gross Domestic Product (GDP) spent on basic research in France and Germany with the shrinking proportion (now 0.28 per cent) spent in Britain. The Liberal Democrats go on to say that they would restore the proportion of public spending on civil science to 0.35 per cent of GDP, but even that is a smaller proportion than richer Germany spends.

That is a mystifying state of affairs. Even the rawest recruit to one of the major parties' manifesto-writing teams could have turned out, if asked, an uplifting sentence or two about the folly of wasting the seed-corn, or about the reasons why discoveries are the well-springs of industrial innovation and thus are the foundations of

national prosperity. With care and a little supervision, the sentences could even have been made promise-free. Yet either these uplifting sentences were never written or, alternatively, were not selected by those who merged the word-processed files that went to make the two chief parties' manifestos. And why should that be?

On the evidence of last week's brochures, the British scientific community must face the stark truth that there is now bipartisan agreement that basic research is either unimportant or unmentionable — or both. Last week's manifestos point to the last interpretation. While failing to mention basic research, each major party promises to spend much of its energy on the provision of vocational training. The government would build on existing Technical Education Councils and on its plans for vocational qualifications for school-leavers; Labour would make a "coherent" package of such schemes. If the premise is that the British labour-force is not sufficiently educated, few will quarrel. But is it intended that radical innovation should sit on the back-burner until that deficiency has been remedied? □

Imaginative biology

The Human Frontier Science Programme, inspired by Japan, deserves more general attention and support.

THE Human Frontier Science Programme is a remarkable venture, reflecting most of all the sheer daring of the Japanese view of how science and technology advance. Five years ago, when the notion of an international collaboration in the field was first canvassed by Japan, many in the West held that the prospectus was too vague to be taken seriously. Unwisely, many chose not to notice what was happening. But the truth is that there is now, at Strasbourg, the first organization to be a genuinely international grant-making research organization. People can apply for research funds, be sure that their applications are properly assessed by others in the field and may, with luck, be given funds to spend. That is something for the government of Japan and for Sir James Gowans, the first secretary general, to be pleased about.

The planned changing of the guard next year (see page 277) should be an opportunity for more fun and games. From the outset, the Japanese have looked to the Human Frontier Science Programme as a means of stimulating imaginative ways of tackling problems in biology. What, for example, do control engineers have to say about homeostasis? Can physical chemists so specify the conditions satisfied by self-assembling molecular aggregates in biology — synapses or muscle fibres, for example — that the natural functions of these systems would be better understood and artificial analogues developed for industrial use? Is it even time to embark on the construction of a mathematical model of a cell, no doubt the megaproject that will follow the human genome projects? The new partners at Strasbourg should not be afraid to let Japan push them in such directions. □